

Claims

1. A peritoneal dialyzer comprising: a catheter capable of injecting and discharging peritoneal dialysate in an abdominal cavity of a patient; a peritoneal dialysate circuit connected to the catheter; and a dialyzer provided in the peritoneal dialysate circuit, the dialyzer comprising a hemodialysate circuit connected so that peritoneal dialysate passing through the inside can come into contact with hemodialysate via a hollow fiber membrane,

characterized in that means capable of measuring an osmotic agent concentration in peritoneal dialysate is provided in the peritoneal dialysate circuit on the side of the end at which the catheter is connected with respect to the dialyzer, and a mechanism for dehydrating the peritoneal dialysate according to the osmotic agent concentration measured by said means is provided in the hemodialysate circuit.

2. A peritoneal dialyzer according to Claim 1, characterized in that said means capable of measuring said osmotic agent concentration is at least one type of means selected from the group consisting of an ultrasonic wave measuring apparatus, a refractive index measuring instrument, a light absorption instrument, and a conductive rate measuring instrument.

3. A peritoneal dialyzer according to Claim 1 or 2, characterized in that dehydration of peritoneal dialysate is performed via a dialyzer.

4. A peritoneal dialyzer according to any one of Claims 1 to 3, characterized in that the mechanism for performing dehydration of peritoneal dialysate performs dehydration by a pump provided in the hemodialysate circuit.

5. A peritoneal dialyzer according to any one of Claims 1 to 4, characterized in that osmotic agent cannot pass through a hollow fiber membrane in the dialyzer.

6. A peritoneal dialyzer according to any one of Claims 1 to 5, characterized in that said osmotic agent is at least one type of compound selected from the group consisting of albumin, glucose polymer and dextran.

7. A method of peritoneal dialysis using a peritoneal dialyzer comprising a catheter capable of injecting and discharging peritoneal dialysate into/from an abdominal cavity of a patient, a peritoneal dialysate circuit connected to the catheter, and a dialyzer provided in the peritoneal dialysate circuit, the dialyzer including a hemodialysate circuit connected so that peritoneal dialysate passing through the

inside can come into contact with hemodialysate via a hollow fiber membrane, and which includes

(a) taking peritoneal dialysate out from a patient and measuring an osmotic agent concentration (c_1) in the peritoneal dialysate;

(b) calculating an amount of dehydration (u_{f1}) of the peritoneal dialysate required for adjusting the osmotic agent concentration (c_1) in the peritoneal dialysate to a predetermined osmotic agent concentration (c_2),

(c) removing water corresponding to the calculated amount of dehydration (u_{f1}) of peritoneal dialysate via the dialyzer; and

(d) injecting the peritoneal dialysate into the patient again.

8. A method of peritoneal dialysis according to Claim 7, characterized in that measurement of the osmotic agent concentration in said peritoneal dialysate is performed by at least one type of means selected from the group consisting of an ultrasonic wave measuring apparatus, a refractive index measuring instrument, a light absorption instrument, and a conductive rate measuring instrument, provided in the peritoneal dialysate circuit on the side of the end at which the catheter is connected with respect to the dialyzer.

9. A method of peritoneal dialysis according to Claim 7 or 8, characterized in that dehydration of said peritoneal dialysate is performed by a mechanism for dehydrating by a pump provided on the hemodialysate circuit.

10. A peritoneal dialyzer according to any one of Claims 7 to 9, characterized in that said osmotic agent cannot pass through the hollow fiber membrane in the dialyzer.

11. A peritoneal dialyzer according to any one of Claims 7 to 10, characterized in that said osmotic agent is at least one type of compound selected from the group consisting of albumin, glucose polymer and dextran.